

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/DK2004/000497

International filing date (day/month/year)
09.07.2004

Priority date (day/month/year)
10.07.2003

International Patent Classification (IPC) or both national classification and IPC
B65D85/68, B60P3/40

Applicant
LM GLASFIBER AS

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for International preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

10/563665
IAP20 INC 1 PCT/PTD 06 JAN 2006
International application No.
PCT/DK2004/000497

Box No. 1 Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/DK2004/000497

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	
Inventive step (IS)	Yes: Claims	1-18
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

see separate sheet

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)

International application No.
PCT/DK2004/000497
06 JAN 2006

Re Item V.

- 1 The following documents are referred to in this communication:
D1 : WO 02/083523 A (SOERENSEN CARSTEN ; NEG MICON AS (DK);
O'KANE ROGER (GB)) 24 October 2002 (2002-10-24)
- 2 Document D1, which is considered to represent the most relevant state of the art,
discloses:

a method of transporting and storing wind turbine blades. The blades are arranged in frames secured at the blade root and at the blade tip, respectively, and then joined with an upended blade arranged in corresponding frames. As a result, the blades may be arranged modularly close together in both the horizontal and the vertical plane.

From this, the subject-matter of independent claim 1 differs in that:

the method of transporting and storing wind turbine blades is dedicated to a wind turbine blade which curves in an unloaded state in such a manner that the blade presents a substantially concave face and a substantially convex face, and such that said blade tip is spaced apart from the longitudinal central axis of said blade root. The wind blade is prestressed by means of prestressing means at a distance from the blade root in such a way that the blade tip is brought closer to the longitudinal central axis of the blade root.

- 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)
The problem to be solved by the present invention may be regarded as:

to allow the manufacture of bigger sized curved blades removing the technical constraints and loosening the technical requirements given by the necessary transportation from the manufacturing site to the application site.

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

a method which allows transportation of big sized wind turbine blades despite their

big curvature is shown. The method prestresses the blade at a distance from the blade root in order to have a near straight blade configuration which allows easier transportation.

- 2.3 Claims 2-13 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
- 3 Similarly the subject-matter of claim 14 disclosing a curved wind turbine blade with built-in prestressing means by means of a ballast and the subject-matter of claim 15 disclosing an apparatus with prestressing means for transporting and storing a curved wind turbine blade are novel (Article 33(2) PCT) and involve an inventive step (Article 33(3) PCT). The devices of claim 14 and 15 allow the novel and inventive method claims for transporting and storing a wind turbine blade.
- 3.1 Claims 16-18 are dependent on claim 15 and as such also meet the requirements of the PCT with respect to novelty and inventive step.